

Remarks

Prior to the present amendment Claims **42-61** were pending in the present application. Upon entry of the present amendments, Claims **42-61** remain pending. It is believe that no additional claim fees need accompany this response.

Claim Objection and Correcting Minor Errors

Applicants thank the Examiner for noting that **Claim 51** did not end in a period. Applicants have the appropriate amendment to address this issue and to correct various minor errors in **Claims 42, 51, 56, and 58-60**.

35 U.S.C. 103 (Weiss in view of Chang)

The Examiner rejected Claims 42-61 as unpatentable over Weiss et al. (U.S. 4,263,981) in view of Chang (U.S. 6,343,673). The Examiner contends that Weiss teaches all elements of Claims 42, 54, 55 and 60 except a rotatable propeller that is attached such that the propeller is capable of rotation when exhaust gas passes from the inlet tube into the expansion chamber, and wherein the propeller spins the exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell.

The Examiner attempts to cure the defect by contending that Chang teaches a muffler with a propeller that spins exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell; wherein the gases freely exit the outlet tube without back pressure on the engine (citing col. 2, lines 37-58). The remaining claims were rejected as obvious variations of the Weiss/Chang combination. Applicants respectfully traverse because the Examiner has mischaracterized the cited references, ignored limitations of the claims, and used the application as a roadmap to improperly combined bits and pieces of the cited references to render the currently pending claims obvious.

Chang is Mischaracterized

The Examiner mischaracterized Chang by contending that it teaches that the gases freely exit the outlet tube without back pressure on the engine. In fact, Chang teaches the complete opposite. In describing the operation of the disclosed device, col. 2, lines 37-50 teaches, "When

the gas flow passes through the rear vane wheel 35, the gas flow exerts an impact on the rear vane wheel 35, thereby **forming a pressure back effect** of an interfering current ..." (underlined emphasis added). This teaches away from the concept of an improved gas flow. Although Chang asserts that the device may accelerate exhaust velocity of the gas by rotation of the vane wheels, this is not substantiated in the disclosure, and is substantially negated by the admission that the device forms a pressure back effect. As will be shown below, this defect is proven by tests that show that the device provides no improvement in engine performance.

Claim Limitations were Ignored

Claim 42, and all claims depending therefrom, provide that the blade assembly be arranged in "said inlet tube, said rotatable propeller being seated in, but not blocking said chamber." Claim 54, and all claims depending therefrom, provide that the blade assembly be "arranged between said inlet tube and said expansion chamber tube." Claim 60, and the claim depending therefrom, provide for "attaching a rotatable propeller proximately to an inlet of an expansion chamber within said exhaust system without materially blocking the flow of exhaust gases from said engine." In other words, the claims require the propeller to be arranged in a manner that does not block the flow of gases out of the inlet tube. This requirement was ignored. Even if Chang and Weiss could be properly combined, nothing in Chang or Weiss teaches arranging the blades in a manner that does not block the flow of gases out of the inlet tube. The Examiner's contention that it would have been obvious to place the Chang propeller in the inlet tube of the Weiss expansion chamber ignores the requirement that it must do so without blocking the flow of exhaust gas. As indicated above, Chang actually taught away from this requirement.

Hindsight Combination of Elements

Combining the cited references to support the pending obviousness rejections is not proper because nothing in the cited references teach or suggest arranging the blades in the inlet or between the inlet and the expansion chamber in a manner that does not impede gas flow. Applicants respectfully submit that the Examiner has improperly used hindsight in making the present rejection. The Court of Appeal for the Federal Circuit have cautioned against using claims in an application as a blueprint to piece together limitations from disparate references to form an obviousness rejection. In re Rouffet, 149 F.3d 1350, 47 U.S.P.Q.2D 1453 (Fed. Cir.

1998). The court states,

Virtually all inventions are combinations of old elements. Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

* * * * *

This court infers that the examiner selected these references with the assistance of hindsight. This court forbids the use of hindsight in the selection of references that comprise the case of obviousness.

In re Rouffet, 149 F.3d 1357 (internal quotations and citations omitted)(reversing BPAI affirmation of Examiner's obviousness rejection).

The present invention represents an evolution in exhaust system technology. Weiss is simply a muffler with an expansion chamber. Chang and numerous others have tried to improve engine performance by improving exhaust gas flow. However, the Examiner has not cited any reference which by itself, or in combination with others, which provides for arranging the blades in the inlet or between the inlet and the expansion chamber in a manner that does not impede gas flow. Accordingly, the rejections are defective as a matter of law and must be withdrawn.

Evidence of Unexpected Results

In addition to the remarks above, Applicants has conducted tests showing as a matter of fact, that the claimed invention provides superior performance over that of the prior art. Applicants constructed exhaust systems as described in Chang and Weiss. The copied systems along with stock systems and the inventive system were tested by an independent testing company to compare horsepower and torque gains. Weiss and Chang provided very little improvement over stock systems, while the claimed invention provided an improvement of

between about 12 and 20 percent in fuel efficiency. The claimed invention also provided an increase in horsepower over each of the other tested systems. An Affidavit under Section 132 is submitted with copies of the test results as Exhibits D1-6.

From the results discussed above, it is apparent that the claimed invention provides a substantial advantage over that of the cited references. Even if there was a suggestion to combine the two cited devices, the lack of improvement over stock exhaust systems would have deterred such a combination.

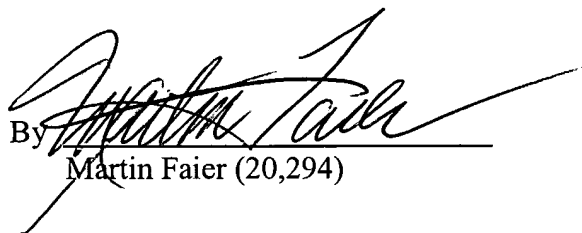
Conclusion

For the foregoing reasons, Applicants believe that the pending claims are patentable, and respectfully request allowance. If there are any other matters that need to be addressed prior to allowance, please call the undersigned at the telephone number recited below for a telephone disposition. Finally, while Applicants do not believe that any additional fee, aside from any separately authorized petition for extension fee, is required, the Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-0040. In the case of overpayment, please credit the same account.

Respectfully submitted,

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Facsimile: 312-382-9200

Date: 28 October 2005

By 
Martin Faier (20,294)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: David Arlasky]	Before the Examiner
Serial No. 10/623,960]	Edgardo San Martin
Filed 17 July 2003]	
For ROTATABLE PROPELLER DRIVEN]	Group Art united 2837
ENGINE EXHAUST SYSTEM]	

Declaration of David F. Arlasky

David F. Arlasky hereby declares, as follows:

1. He is the inventor of and fully familiar with the invention disclosed and claimed and in the proceedings in the above identified patent application. Affiant is the an officer and employee of Arlasky Performance, Inc. of 15801 Rockfield Blvd., Units B and C, Irvine, CA. 92618, the manufacturer and distributor of devices embodying the invention disclosed and claimed in the above identified patent application, which are identified as ZOOMERS exhaust systems. Affiant has also read and understands the disclosures contained in the following United States Patents:

Chang US 6,343,673, granted Feb, 5, 2002, for a TURBINE EXHAUST
STRUCTURE FOR VEHICLE; and

Weiss et al US 4,263,981, granted April 28, 1981, for a VACUUM PUMP
EXHAUST MUFFLER,

which have been cited in the prosecution of the above identified application.

2. Affiant is a mechanical engineer by education and has been engaged working as a mechanical engineer and industrial product designer for automotive, power companies, refineries and food process companies for more than forty-five years.

3. On or before May 3, 2005, affiant supervised the construction of two exhaust mufflers,

described as follows:

A. A Weiss patented vacuum pump exhaust muffler, built in accordance with the description and drawings shown in the above referred to Weiss et al US Patent No. 4,263,981, particularly including a vacuum pump pipe line exhaust device having an enlarged entry compartment intended to propel the pipe line exhaust through a greatly reduced exit silencing tube of the same size exit as the exit tube diameter. Photographs of the Weiss muffler are attached hereto marked Exhibit A-1, A-2 and A-3..

B. A Chang patented turbine exhaust structure, built in accordance with the description and drawing shown in the above referred to Chang US Patent No. 6,343,673, particularly with a multiple blade rotating turbine on a single axle mounted inside the middle of the tip housing. Photographs of the Chang muffler are attached here marked Exhibit B-1, B-2 and B-3.

4. The mufflers referred to in Par. 3 hereof we delivered to XS Engineering Co. For testing on or about May 3, 2005. The testing was performed by XS Engineering Co. using industry standard tests. An article in the June 2005 issue of Performance Business magazine describes the business and competence of XS Engineering Co. and is attached hereto marked Exhibit C. XS Engineering is well known for its ability to conduct reliable and extensive tests of exhaust systems, and the engineer to whom these tests were entrusted is known by affiant to have at least 10 years of experience in engineering school and as a tester of exhaust systems. Affiant ordered XS Engineering Co. to test the exhaust systems shown in Exhibits A-1 through A-3 and B-1 through B-3 as well as stock exhaust systems (systems used on Chevrolet, Chrysler and Ford products) and ZOOMERS exhaust systems constructed under supervision by affiant for Arlasky Performance, Inc.

to ascertain and compare horsepower and torque gains of the test exhaust systems.

5. Tests were performed by XS Engineering Co. on each of the above referred to exhaust systems, and report graphs of torque and horsepower values were delivered to affiant. Copies of these graphs are attached to this Declaration, marked Exhibits D-1, D-2, D-3, D-4, D-5 and D-6.

6. In these Exhibits D-1 through D-6, referred to in the previous paragraph, the term "RPM" means engine revolutions per minute, which show the RPM level of the test vehicle at the highest horsepower and torque ratings on each test; the term "Dyno-Run" means the results of each test run; the term "Max Power" refers to which of the exhaust equipped vehicle tests produced the highest horsepower and torque ratings; the term "HP Gain" shows the amount of horsepower increase, if any, in each of the tests; and "Torque Gain" shows the amount of torque increase, if any, in each of the tests.

From these test results, Affiant has concluded the following:

A. Chang performed substantially no better than stock exhaust systems.


B. Weiss revealed only a small horsepower gain and torque gain over some of the stock exhaust systems.

C. As compared to all systems tested, the ZOOMERS device embodying the structure disclosed in the above identified application, greatly improved engine horsepower and torque by virtually eliminating exhaust back pressure, to enhance the overall performance of the vehicle and enable fuel mileage to improve by 12% to 20%, while maintaining a decibel level below the certified automotive minimum acceptable level.

D. The ZOOMERS device showed a dramatic increase in horsepower and torque over each of the other tested exhaust systems, and as a result of these horsepower and torque

gains, vehicles equipt with the ZOOMERS exhaust system accelerated more rapidly than the other vehicles tested without requiring the need to open the throttle to full position, adding to the overall performance of the vehicle with greatly improved fuel economy.

Wherefore, affiant, being warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the above identified application or any resulting patent, declares that all statement made in this Declaration are true to the best of his knowledge and belief.



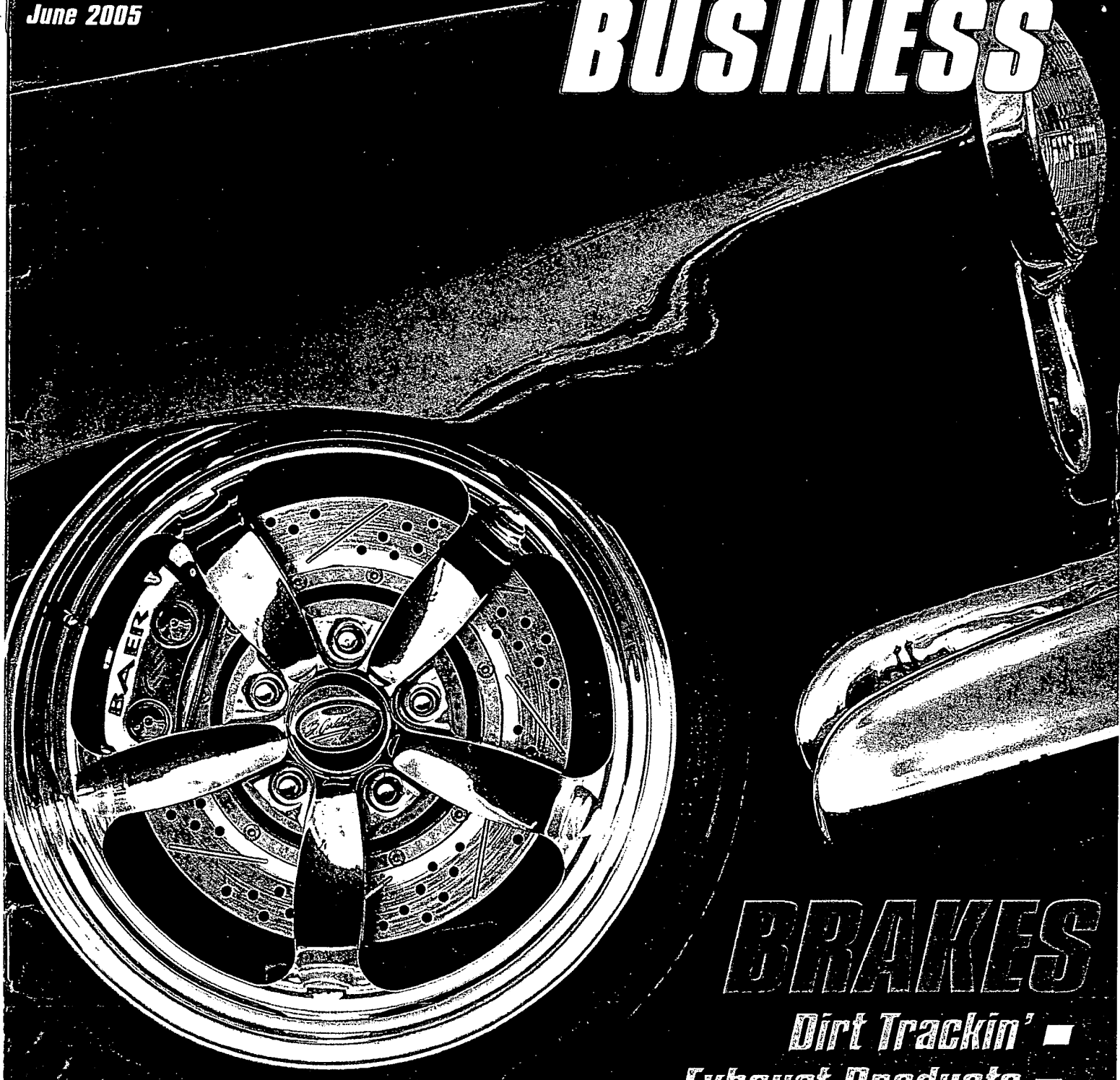
David F. Arlasky

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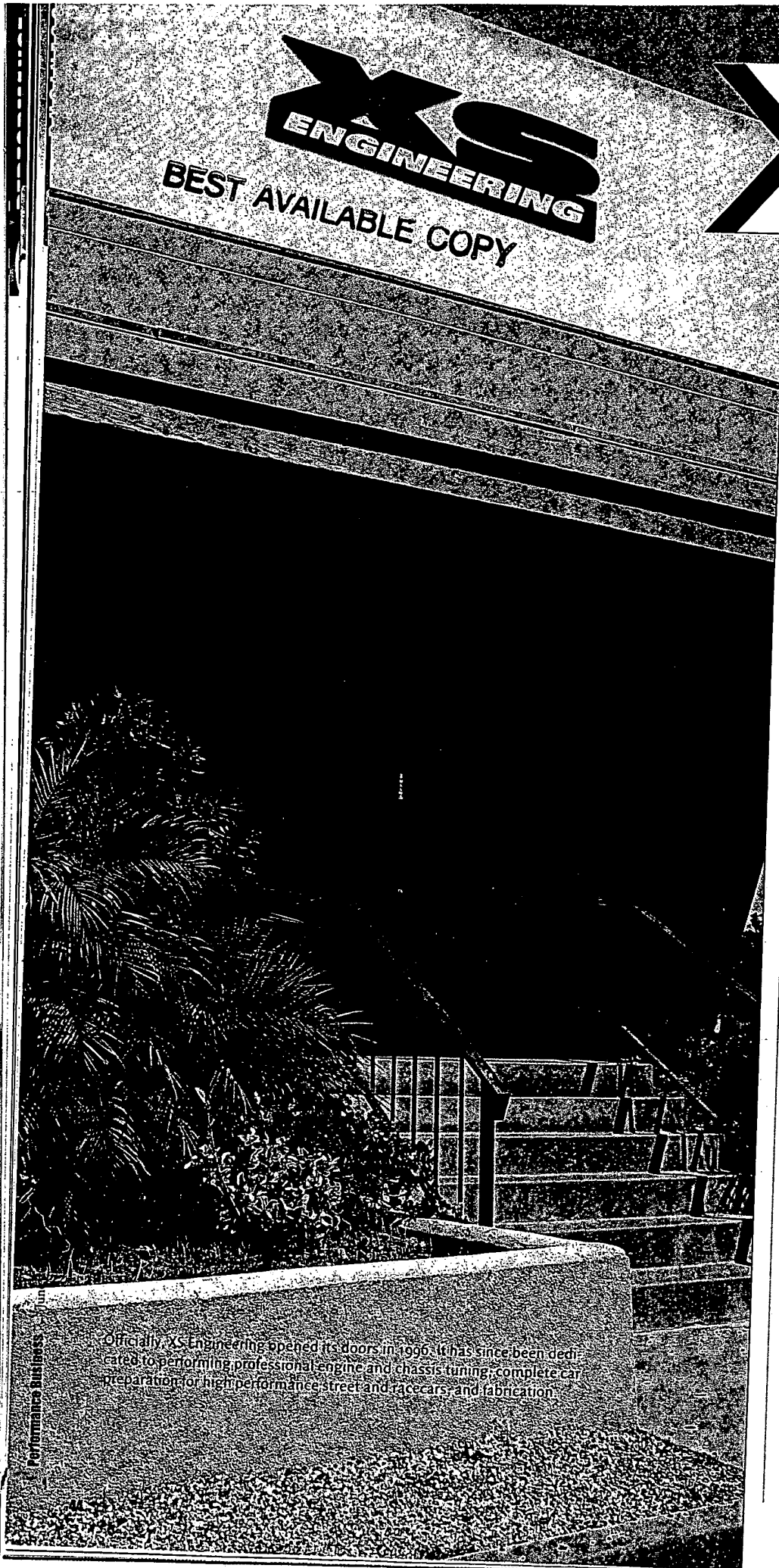
Dirt Trackin' ■

Exhaust Products ■

Profile: XS Engineering ■

ARLASKY SN 10/623,960
EXHIBIT C

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XS ENGINEERING
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XS

Like most boys, Eric Hsu and Troy Miyamoto liked cars. Only for them, admiring cars wasn't enough; they wanted to make them better. Still teenagers, they found they were not satisfied with what mechanics at local auto shops could provide. Hsu and Miyamoto learned that if they wanted it done *right*, they would have to do it themselves. Lucky for them, Hsu's parents didn't object when the boys transformed their garage into what would later be the first of many shop locations. It was cramped, but they made it work.

In fact, it worked so well that their friends and family went from cautiously allowing the two to work on their cars, to patiently waiting in line to have work done. What Hsu and Miyamoto didn't realize as they tinkered away in those cramped quarters was that they were building more than cars—they were inadvertently forming what would become XS Engineering.

Retail Becomes Reality

Officially, XS Engineering opened its doors in 1996. It has since been dedicated to performing professional engine and chassis tuning, complete car preparation for high performance street and racecars, fabrication... and even manufacturing a few of their own custom products.

Originally located in a 1600-square-foot facility in Fullerton, Calif., the company's reputation quickly allowed them to move up to a 7000-square-foot facility in only a six month period.

"The plan was to start off slow," Miyamoto says, "We wanted to build around the clientele we already had. As the clientele grew, so did we."

In May 2002, after being established for nearly six years, XS Engineering relocated yet again. This time, it was to a

Officially, XS Engineering opened its doors in 1996. It has since been dedicated to performing professional engine and chassis tuning, complete car preparation for high performance street and racecars, and fabrication.

ENGINEERING

From garage to television, this Calif.-based shop's success story is Hollywood-calibur.

BY HOLLY BARTLETT AND JOSH TUKMAN

PHOTOS BY GLENN KINER

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hefty 19,000-square-foot facility in Huntington Beach, Calif.

Hsu credits the growing success of their company to the dedication of the family and friends he employs.

"We know they know cars. Our tuners, mechanics and technicians put 100 percent into everything they do" he says.

"We also make working with our customers very personal," Miyamoto adds. "We like to focus on what they want to do to their cars."

Forging Ahead

Also contributing to the shop's success is XS Engineering's own line of products.

The company says their products are developed with the car enthusiast in mind.

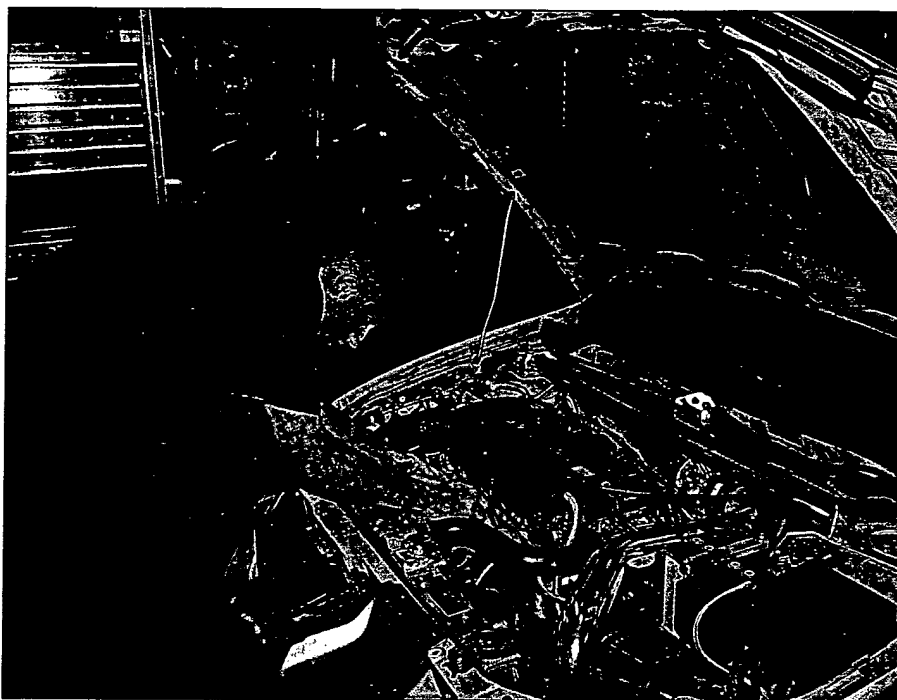
"All our knowledge and experience goes into each turbocharger we design and sell, each turbo and intercooler system we design, each car we build and all of our workmanship.

"After all, all of us are car enthusiasts ourselves. We understand not only the mechanics of cars, but how the cars will be driven."

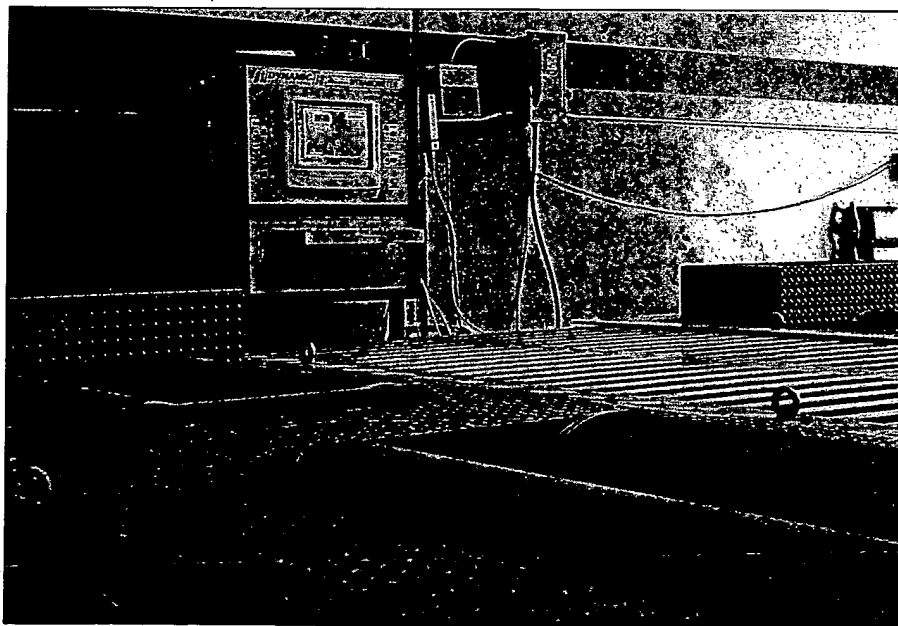
The company's technical staff has been found to be so knowledgeable that they say magazine editors, race series sanctioning bodies and manufacturers contact them often for consultation.

"A lot of times they want to know the limits of a certain vehicle," Miyamoto says. "Other times they just want to know the best way to build a car and what we might recommend. We've even test driven factory cars for the manufacturer's when they need our opinion."

Their reputation has even attracted the attention of the Speed Channel recently. Hsu and Miyamoto, along with their team at XS Engineering, are currently in



Hsu credits the growing success of their company to the dedication of the family and friends he employs.

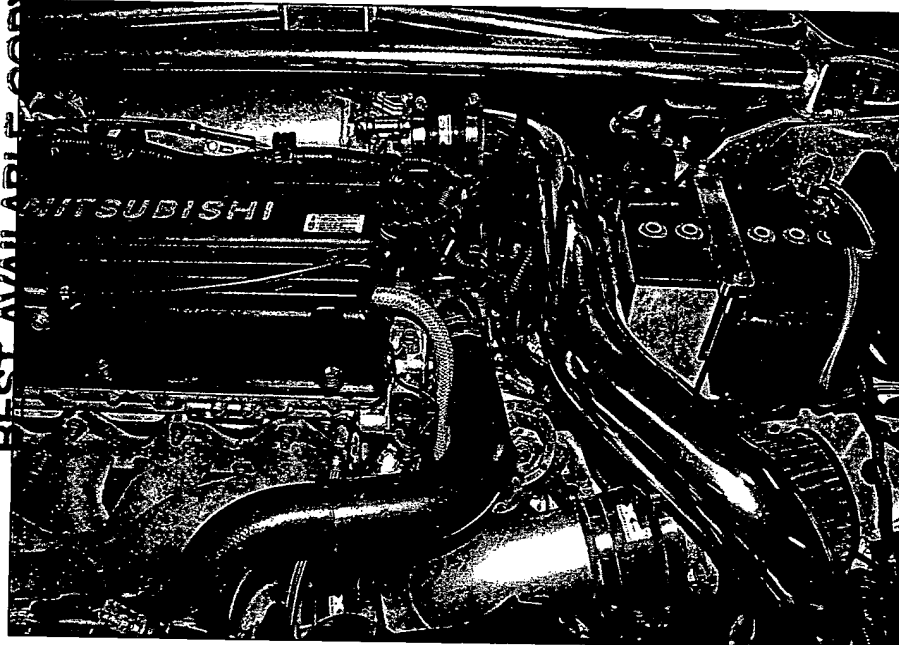


Dyno testing is a very important part of the custom performance installations the shop specializes in.



XS TD4E Turbocharger

XS Engineering even manufactures some of their own custom products.



The shop's own employees have been sought out by magazine editors, race series sanctioning bodies and manufacturers to consult with regarding technical questions.



Import vehicles of the more exotic type can be found in the shop on any given day. Truly custom modifications make each one very unique.

the process of filming a 15 episode documentary series scheduled to launch in July of this year.

"We're in the process of building our pride and joy for this series," Hsu says of the project which will show the build up of the vehicle.

A Nissan Skyline GTR, which the team refers to as "the king of racing," is a Japanese super car that never made it to the United States market.

"We chose to do this series because it's a documentary," Miyamoto explains. "There won't be any scripted drama or twists, just us building a car the way we want to, and on our own terms."

Then again, XS Engeneering has always done things on its terms and in its own way. So long as Hsu and Miyamoto continue custom building racecar masterpieces, nobody is complaining.

On the rise from their humble beginnings in the garage to their success in a highly competitive industry, Hsu and Miyamoto have stuck to a simple recipe for success.

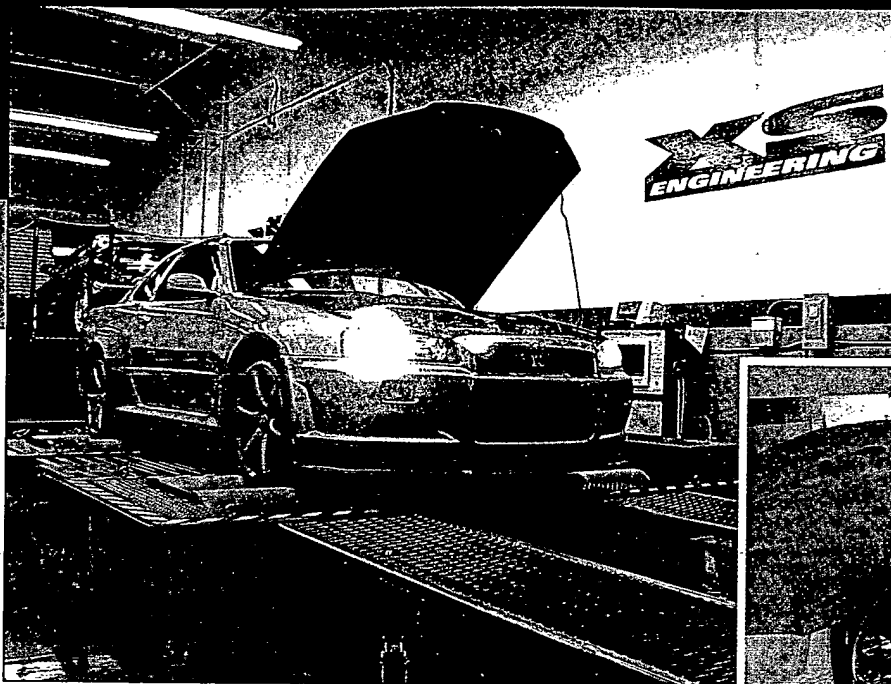
"Don't cut corners," Hsu explains. "That's the most important thing. The work will speak for itself."

The advice they offer for established shops, as well as shops in the making, is to "set realistic goals," expresses Miyamoto.

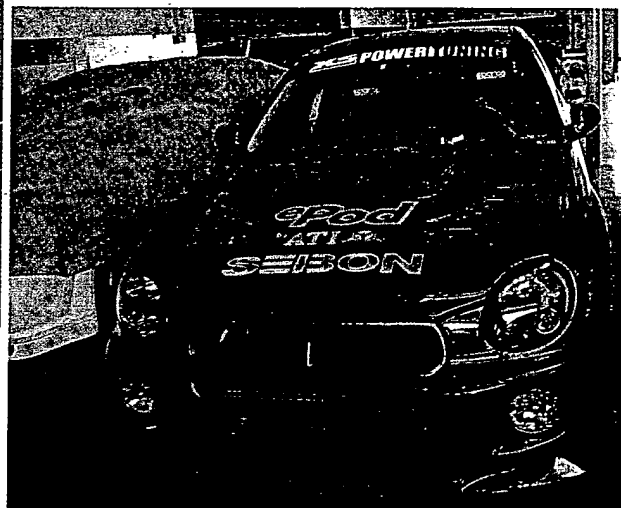
"It's a good idea to have a one, three- and five-year-plan, and do your best to accomplish those plans."

"We started off in this industry not knowing a thing about business. It's been a continual learning process and we've learned along the way how to run things efficiently."

It's a formula that has proven successful for the shop, and the future looks bright for XS Engineering, especially in light of the television coverage the shop will soon receive. Where will Hsu and Miyamoto take the shop from there? The sky appears to be the limit.



The Nissan Skyline GTR is the car the XS Engineering team refers to as, "The king of racing."



A wide variety of high- tech import vehicles is always stabled in the XS Engineering garage, lik this Subaru WRX.

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